

 **VERSATEC**
10100 BUBB ROAD
CUPERTINO, CA 95014

FIRST CLASS MAIL

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10100 BUBB ROAD
CUPERTINO, CA 95014

T NELSON
SYSTEMS CONSULTANT
BOX 3
SCHOOLLEYS MOUNTAIN
NJ 07870

HERE IS THE
LITERATURE
YOU REQUESTED

PRODUCT APPLICATION:

- ☐ EDP Operations ☐ On-Line ☐ Off-Line
☐ Real Time ☐ Time Share
☐ Communications Only (non EDP)
☐ Business ☐ Engineering/Scientific
☐ Process Control
☐ Other _____

NATURE OF BUSINESS:

- ☐ Communications ☐ Medical
☐ Educational ☐ Retail/Wholesale
☐ Financial ☐ Services
☐ Governmental ☐ Transportation
☐ Industrial (Goods & Equipment Mfgs)
☐ Other _____

Please send me additional information on: _____

Please contact me regarding: _____

Telephone: _____

☐ Please add my name to your mailing list.

If address shown below is incorrect, please make necessary change

T NELSON
SYSTEMS CONSULTANT
BOX 3
SCHOOLLEYS MOUNTAIN
NJ 07870

Gentlemen:

Thank you for your interest in Versatec products.

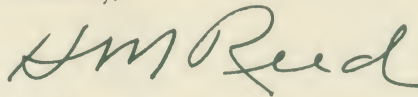
Information on the MATRIX SERIES PRINTERS AND PLOTTERS is enclosed, in addition to literature that describes the new MULTIPLUS SYSTEM concept for printing and distributing computer and communications hard copy output.

For additional information, output samples, product demonstration, and firm delivery schedules, please contact our representative in your area whose address is enclosed, or return the attached card.

A check mark in the box provided will add you to our mailing list for future new product announcements, specifications, and application bulletins of interest to you. You can assist us in communicating with you more effectively if you will identify the nature of your business and product application areas shown on the card.

We hope that you will find this material informative and useful, and we welcome the opportunity to be of service to you.

Sincerely,



H. Milton Reed
Marketing Manager

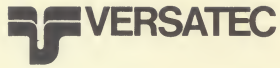
Business Reply Mail

No Postage Necessary if Mailed in the United States. Postage will be paid by



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MATRIX HARD COPY OUTPUT DEVICES

GENERAL DESCRIPTION

Versatec offers a complete line of nine printers, plotters, and combination printer/plotters which use the advanced Matrix electrostatic writing technique. Non-impact, silent writing provides high reliability, speed and flexibility in printing both alphanumerics and graphics. Matrix products have the best performance-to-price ratio in the industry.

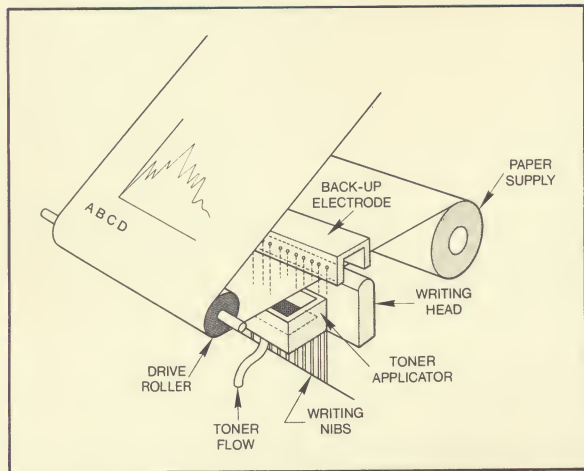
Matrix provides excellent quality print-out on standard, office-size paper for ease of handling, binding and reproduction. Printers produce high contrast, perfectly formed 5 x 7 dot matrix characters at speeds up to 600 lines per minute, 80 characters per line on 8-1/2 inch wide paper. Other models print 7 x 9 dot matrix characters at speeds up to 480 lines per minute, 132 characters per line on 11 inch wide paper. Plotters and combination printer/plotter units, with superior performance characteristics, are also available.

All Matrix models operate with no moving parts except in the paper transport. Simplicity in design and increased operating reliability over conventional impact printers and pen-plotting

systems are advantages in operation. Low initial equipment cost (including interface equipment), greatly reduced maintenance costs and system down-time are added benefits to Matrix users.

The Matrix products are designed for use with computer systems of all sizes, and are particularly suited for small and medium size systems where the cost of peripherals is a major consideration. Matrix is also used in CRT terminal applications where hard copy output is required and in high speed communications applications, up to 9600 BPS, for remote batch processing.

Matrix printers accept standard ASCII inputs in serial or parallel, asynchronous data. The ASCII input is decoded and converted to characters by means of a Read-Only-Memory (ROM), included in the standard configuration. Matrix plotters accept software generated data in eight-bit bytes for raster scan plotting of graphic information. Combination printer/plotters accept both printing and plotting input data.



TYPICAL MATRIX CONFIGURATION SHOWING PRINCIPLE OF OPERATION

The printers and plotters manufactured by Versatec contain no moving parts in the writing process. The only moving parts are those associated with transporting the paper, which moves in one direction only. Writing is accomplished by programming the voltage applied to a stationary, linear array of conducting nibs.

These nibs are addressed in a digital manner by a timing sequence, according to the output of a computer or other digital device. The conducting nibs produce an invisible charge directly on the surface of a dielectrically coated paper.

This charge is subsequently developed by a liquid toner producing a high quality, high contrast, visible image of the data received. No further fixing or special paper handling is necessary. The record is available for immediate use. It has excellent archival qualities and is reproducible on office copying machines.

Speed and flexibility in presenting graphics and alphanumerics are inherent in this advanced writing technique. It is truly an electronic method of placing digital signals directly onto paper.

8-1/2 Inch Products

PRINTERS

Matrix Model 300 and Model 600 are 300 LPM and 600 LPM, 80 column printers which produce 5 x 7 dot matrix characters on 8-1/2 inch wide paper. A sample of the copy produced is shown at the right.

Character spacing is 10.3 per inch across the paper and 6 lines per inch in the vertical direction. The standard configuration includes an 80 character, one-line buffer. An optional two-line buffer is also available.

The maximum parallel data input rate is 100K, 8 bit, bytes per second. Serial data is accepted at rates from 110 to 9600 BPS.

PLOTTERS

Model 100 and Model 200 are raster scan plotters which operate at 0.828 and 1.656 inches per second paper speed, respectively. Plotting is done on a width of 7.75 inches on the 8-1/2 inch wide paper, with 560 writing nibs, or 72.5 nibs per inch. A sample of a typical plot is shown at the right.

Input to Matrix plotters is asynchronous parallel 8-bit byte format, and 70 bytes comprise one scan. Each data bit relates to one nib on the writing head. Incremental paper drive motors provide accuracy in plotting data, and any 8-1/2" x 11" graph, **regardless of complexity**, can be plotted in less than 14 seconds by Matrix Model 100 and less than 7 seconds by Model 200.

PRINTER/PLOTTERS

Matrix Model 100A combines the features of a 300 LPM printer and the 0.828 inch per second plotter. Matrix Model 200A combines the features of a 600 LPM printer and the 1.656 inch per second plotter. Printer/Plotters allow printing of both alphanumeric and graphic information on the same piece of paper. A sample of the output is shown at the right.

Matrix printer/plotters have two separate modes of operation, one for printing and one for plotting. They operate similarly to individual Matrix printers and plotters and offer the outstanding features of two units in one.

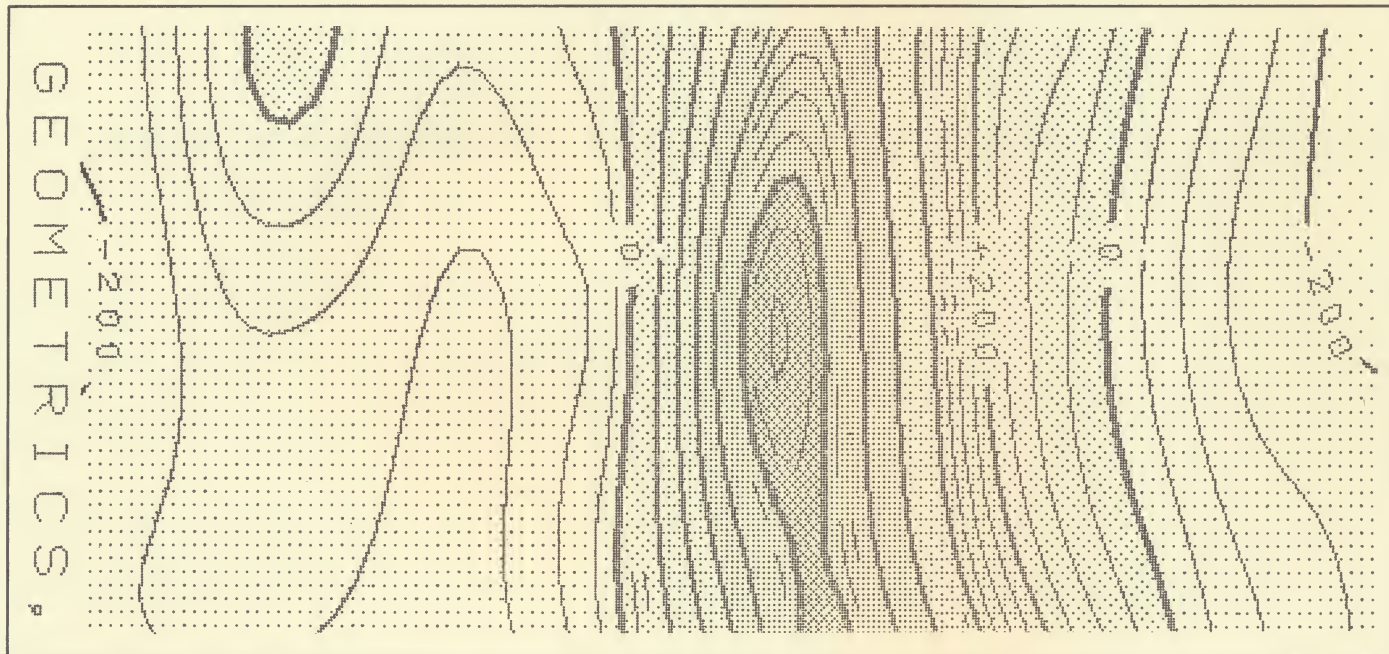
A single Matrix printer/plotter replaces both a conventional line printer and a pen-plotter at a saving in initial price and increased computer system efficiency by reducing the time required for plotting. Data is presented in the most meaningful way for analysis, computation and comprehension.

VERSATEC HARD COPY OUTPUT DEVICES

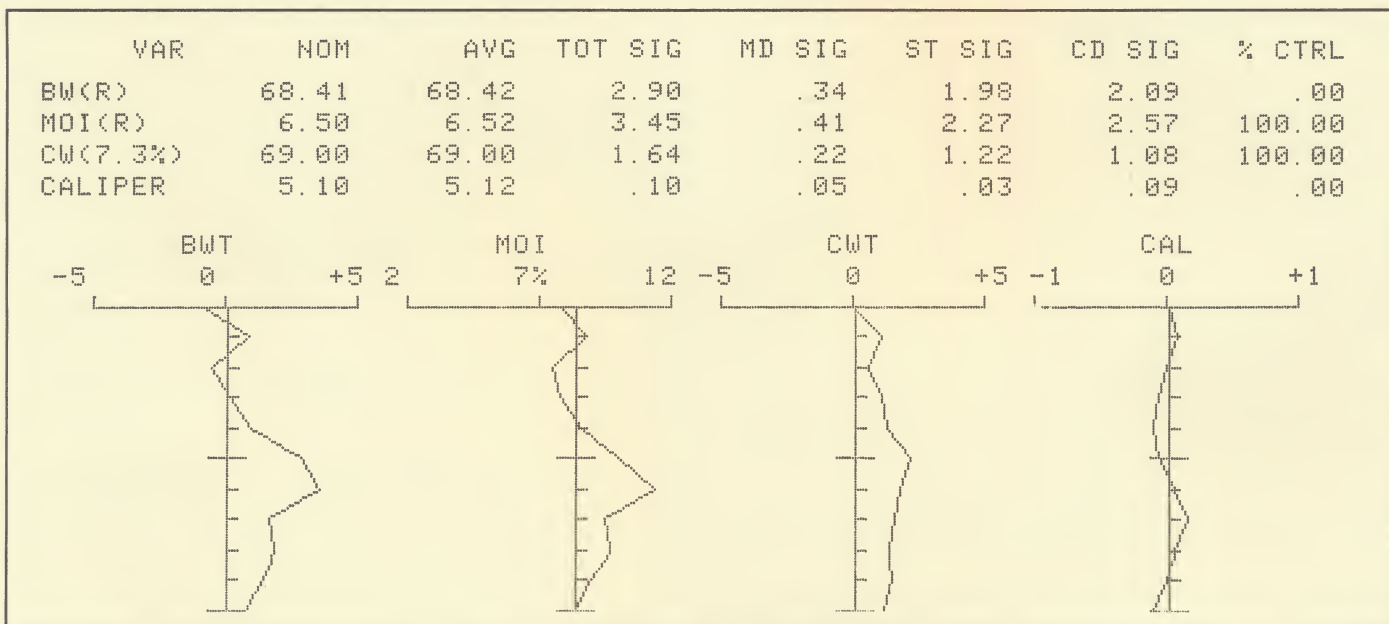
IT WAS JUST ABOUT A HUNDRED YEARS AGO THAT MR. REMINGTON BEGAN TO MASS-PRODUCE THE MACHINE WHICH MADE HIS NAME A HOUSEHOLD WORD. . BUT FOR THREE-QUARTERS OF A CENTURY, LITTLE HAPPENED TO ADVANCE THE ART OF TRANSFERRING INTELLIGENCE TO PAPER ... UNTIL THE ADVENT OF THE COMPUTER.

NOW, WITH MACHINES WHICH WORK FASTER THAN MAN CAN THINK, IT IS NECESSARY TO HAVE MACHINES WHICH WRITE FASTER THAN MAN CAN READ. VERSATEC MAKES MACHINES WHICH DO THIS, AND MORE...FAST, SILENT, INEXPENSIVE MACHINES WITH TOTAL FLEXIBILITY IN GRAPHICS AND PRINTING. WE ARE HOPEFUL THAT YOU WILL BE IMPRESSED ENOUGH BY THESE FEATURES TO WANT TO INCLUDE IN YOUR HISTORIE OF PRINTING PROGRESS THE NOTATION, "1970--THE VERSATEC PRINTER MADE THE SCENE."

SAMPLE OF 80 COLUMN, 5 X 7 DOT MATRIX CHARACTERS



SAMPLE OF PLOT ON 8-1/2 INCH PAPER



SAMPLE OF COMBINATION PRINT/PLOT ON 8-1/2 INCH PAPER

11 Inch Products

PRINTER

Matrix Model 1300 prints 132, 7 x 9 dot matrix characters per line at 480 LPM on 11 inch wide paper. Character spacing is 12.5 per inch and 6.6 lines per inch in the vertical direction. The size of the 7 x 9 dot matrix character is essentially the same as the 5 x 7 character shown at left. This is achieved by closer spacing between dots. The standard configuration includes a 132 character, one-line buffer. An optional two-line buffer is also available. Maximum parallel data input rate is 100K, 8 bit bytes per second. Serial data is accepted at rates from 110 to 9600 BPS.

PLOTTER

Matrix Model 1100 is a raster scan plotter that operates at 1.2 inches per second paper speed. Plotting is done on a width of 10.24 inches of the 11 inch wide paper, with 1024 writing nibs or 100 nibs per inch. Input to Model 1100 is asynchronous parallel 8 bit bytes, and 128 bytes comprise one scan. An incremental paper drive motor provides accuracy in plotting, and an 11" x 8-1/2" graph, **regardless of complexity**, can be plotted in approximately 7 seconds, with excellent resolution.

PRINTER/PLOTTER

Matrix 1100A is a versatile hard copy output device that combines the features of a 480 LPM printer and a 1.2 inch per second plotter.

Matrix 1100A operates in two separate modes, one for printing and one for plotting. In the print mode, ASCII input is decoded and converted to characters by means of a solid state read-only-memory and printed at rates up to 1056 characters per second.

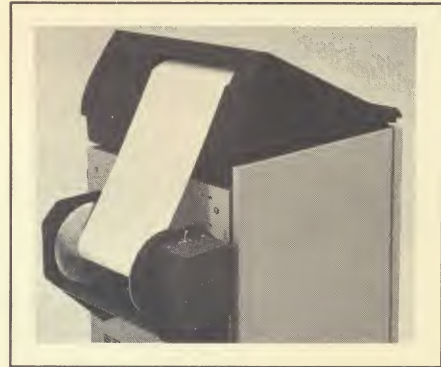
In the plot mode, the Matrix 1100A accepts 128 eight bit bytes per scan to permit graphical plotting from software generated data. Each bit relates to one nib on the writing head. The input is asynchronous, with a maximum data rate of 120 scans per second. Eleven inch wide paper is driven incrementally, in one direction only, in synchronism with the input up to 1.2 inches per second.

Matrix 1100A eliminates the necessity for using separate printers and plotters, since it performs the functions of both. It can be operated on-line or off-line for alphanumeric printing and plotting. In addition, it can combine the two on a single piece of paper.

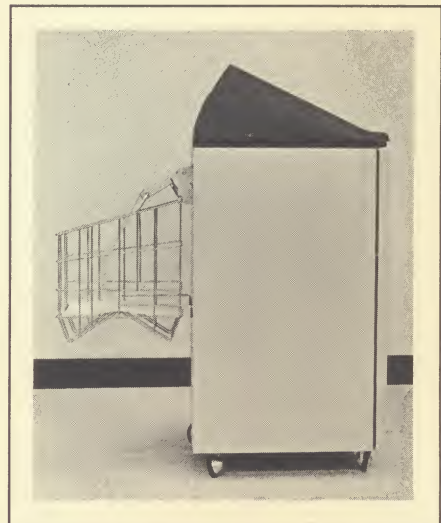
Accessories

All Matrix Models operate with roll paper, 500 feet in length, or with 1000 sheet continuous form fan-fold paper.

Versatec offers optional Paperwinder Accessories that wind either 8-1/2 inch or 11 inch paper. A low-torque gearmotor provides a constant light pull on the paper for efficient operation. Optional fan-fold paper accessories permit the use of electrographic paper in standard sheet size, 8-1/2" x 11", or 11" x 8-1/2". Optical mark sensing of a black mark is used to determine top-of-page rather than pin-feed control as used in conventional printers.



PAPERWINDER ACCESSORY



FAN-FOLD ACCESSORY

Convenience of Installation and Operation

Matrix printers and plotters contain manual controls and visual indicators for efficient and convenient operation. The products are compact in size, 19 inches wide x 18 inches deep x 38 inches high, and weigh approximately 160 pounds. Matrix operates on 115 Vac, 60 Hz or 230 Vac, 50 Hz, 600 watts maximum power.

Convenience of Liquid Toning

The normal operating supply of toner is sufficient for toning 15 to 20 thousand feet of paper (depending on the amount of data being printed and on darkness of printing desired) before replacement is necessary. Toner is economical and can be replaced in minutes.

INTERFACING MATRIX PRINTERS AND PLOTTERS

Matrix is easy to interface because it has:

- Standard TTL (Series 74) Levels
- Standard TTY (Teletype) Levels
- Asynchronous Input
- Serial and Parallel Input
- High Speed Parallel Data Transfer Rate (800K BPS)
- Selectable Serial Data Rates (110 to 9600 BPS)

CONTROLLERS FOR OPERATING MATRIX

Versatec standard controllers are available for the computers shown below. Controllers include printed circuit cards, 10 foot interconnect cable, software drivers, object tapes, listings and diagnostic tape. Controllers for other computer systems will be quoted on request.

Data General Nova, Super Nova Models

Digital Equipment Corporation, PDP 8, 12, 15 GRI-909

Hewlett-Packard Models 2114, 2115, 2116

IBM 1130, 1800

Varian 520i, 620i, 620f

Xerox Data Systems Sigma 2, 3, 5, 7

SOFTWARE FOR PLOTTING

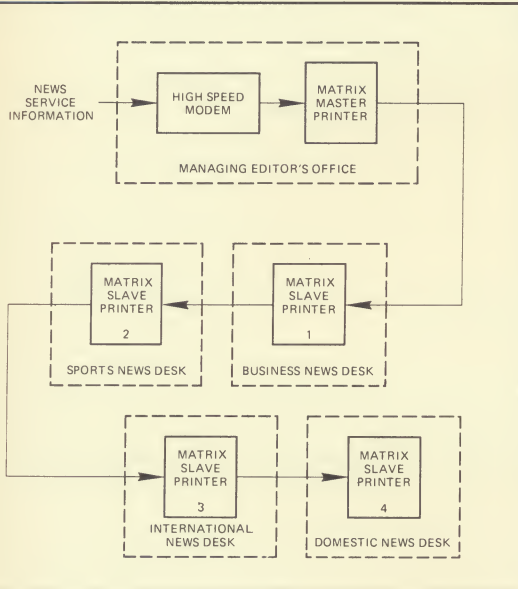
VERSAPLOT is a new concept in plotting software which provides the user with a versatile, flexible system with which to build applications software packages for plotting for all types. VERSAPLOT is written in Fortran and has been optimized from several stand-points:

- to make the optimum use of the newest version of plotting equipment, Matrix plotters and printer/plotters.
- to provide flexibility for machines with varying characteristics of core size, data storage and CPU speeds
- to provide the utmost in features which speed the production of the application software, while providing maximum flexibility for the production of all types of drawings, charts and diagrams.

High Reliability

Matrix printers, plotters, and combination printer/plotters have an inherent **Mean Time Between Failure (MTBF) in excess of 3,000 hours**. Simplicity in design and construction provides for long-term, trouble-free operation.

TYPICAL MULTIPLUS SYSTEM SERIES CONFIGURATION Communications Application



Increased efficiency and cost reduction in handling printed data can be realized with Versatec's Multiplus System. The Multiplus System is a totally new concept for printing and distributing computer and communications hard copy output.

A typical system consists of one master printer and a number of less expensive slave printers that are controlled by the master unit. Computer system software can also control the master and slave printers.

An original hard copy is produced by the master printer, and repeated original copies can be produced simultaneously at any or all of the slave printers, operating at the same speed as the master printer, in a fast and efficient manner.

Slave printers can be located at reasonable distances (up to hundreds of feet) from each other or from the master printer. The units are hard-wired to each other and contain cable driver electronics, permitting in a series configuration many printers to be located over distances of thousands of feet.

Ideal applications of the System concept are those that require the timely processing and distribution of information such as in production, news, warehousing, shipping and financial areas.

A particular system configuration is specified for each application, with controls for operating any or all of the printers on command. In this manner, the number and distribution of printed records can be controlled.

Remote processing and selective machine distribution of data provide a high level of security in handling and distributing proprietary or secret information. The use of a CRT in the system can function as a quick-look control device, determine routing of printout and can also provide interactive I/O capability.

Total system prices depend on the number of master and slave units in the system, distances between units, speed of operation and the type of data being processed—alphanumeric and/or graphic.

SPECIFICATIONS, PRICE AND DELIVERY

Individual product specifications, prices and delivery schedules are available from Versatec. Information and prices on special interface equipment, controllers and software packages will be provided on request.

LEASING VERSATEC EQUIPMENT

Matrix products are available on a full pay-out lease program through Chandler Leasing Corporation. Contact Versatec for full details.

VERSATEC SERVICE PROGRAM

Service centers are conveniently located throughout the United States and Canada for servicing Matrix printers and plotters. Versatec customers may have service performed on their equipment, as required, on an individual basis, or purchase service on an annual maintenance contract at very low rates. Information on the Service Program, service center locations and service rates is available on request.

ADDITIONAL INFORMATION

For additional information please contact the Versatec Representative in your area or the Versatec Marketing Department in Cupertino.



VERSATEC

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